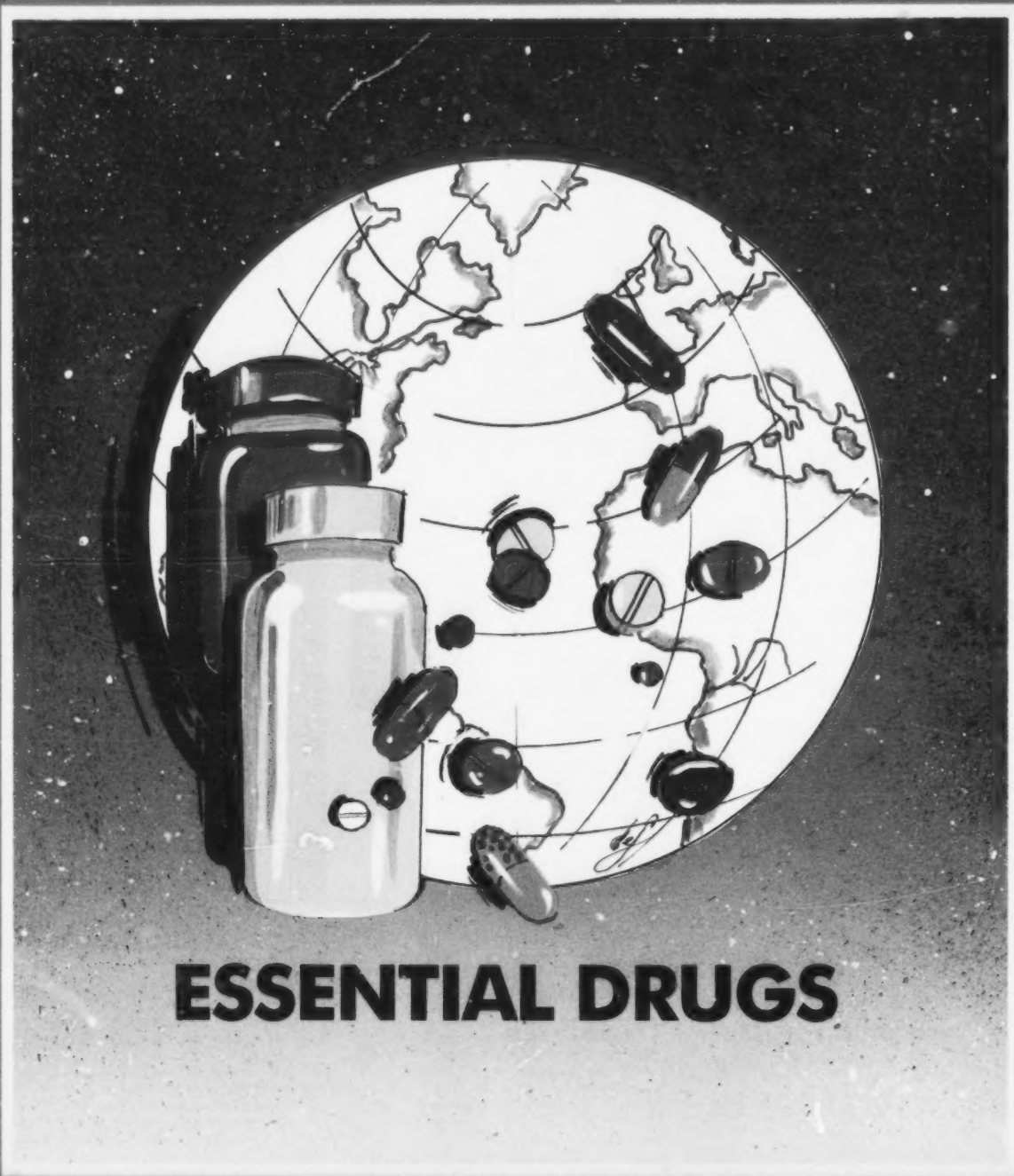


WORLD HEALTH

THE MAGAZINE OF THE WORLD HEALTH ORGANIZATION

MARCH-APRIL 1992



ESSENTIAL DRUGS

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Cover: 'Essential Drugs'
Drawing by Ettice de Loache



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Editorial

How essential is an essential drugs policy?

Dr Hiroshi Nakajima

Director-General, World Health Organization

The rational use of medicinal drugs is critical to the most important primary and preventive health care measures. At the same time, unless there is a regular supply of safe and effective drugs, public trust—and interest—in primary health care will rapidly deteriorate.

Yet half the world's population lacks regular access to the most-needed medicines. Over the past decade, progress has been particularly difficult in the developing world because of adverse economic conditions and at the same time ineffective legislation and regulations, poorly coordinated drug policies and strategies, inefficient procurement, uneven distribution, unaffordable prices and inappropriate drug use. Although some 75% of the world's population live in those countries, they consume less than 20% of the total pharmaceutical market, valued at US\$ 170 000 million. The more developed a country is, the more drugs it consumes.

Of course the need for drugs in poor countries is just as great as, if not greater than, the need in the richer countries. The only difference is that the developing world lacks the finances to pay for the medicines it needs.

Just over a decade ago, WHO—through its Action Programme on Essential Drugs—began to provide technical and financial support to developing countries seeking to improve the availability and rational use of drugs. In addition to its operational work, the Action Programme has played a major advocacy role in promoting the essential drugs concept as a tool to



*Dr Hiroshi Nakajima,
Director-General of the World Health Organization.*

make the most of scarce resources, to improve health care, and to contribute to greater social equity. At present 64 developing countries have operational essential drugs programmes, and another 28 are in the process of drawing up national programmes. Many other development and relief agencies now also apply the essential drugs concept to their health activities.

An increasing number of countries are setting up comprehensive national drug policies, with clearly defined objectives, which draw together the different components in the chain of drug supply and use. Such policies will typically include: legislation to ensure drug safety and quality and to regulate marketing and dispensing; centralized procurement on the basis of a national essential drugs list; the provision of non-commercial drug information; and strategies to improve the education of both prescribers and the public in rational drug use.

But despite significant progress in many parts of the world, the need

remains for stricter and enforceable legislative control, greater coverage of the population, lower prices, improved quality and better use of drugs. Unfortunately, widespread social and economic deterioration in the developing countries stands in the way of effective, efficient and sustainable programmes. The public domain has been especially hard hit, seriously jeopardizing the goal of universal access to essential drugs.

If these difficulties worsen, the drug situation also can only deteriorate. In such circumstances, the essential drugs concept, with its focus on equity and meeting real health needs, becomes even more convincing. National drug policies and essential drugs programmes are now, and in the foreseeable future, the best means we have available of pursuing and eventually attaining the dual objectives of rational management of drug resources and better health for all. ■

A handwritten signature in dark ink, appearing to read 'H. Nakajima'. The signature is fluid and stylized, with a long horizontal stroke at the end.

Hiroshi Nakajima, M.D., Ph.D.

WHO Interview

Safe drugs for everyone

Nigeria passed new drug legislation in 1989 to help solve problems in distribution and utilization of medicines.

Professor O. Ransome-Kuti, Minister of Health of Nigeria, was interviewed by Daphne Fresle, Editor of the Essential Drugs Monitor, WHO, Geneva.

Professor Ransome-Kuti, what were the major areas of concern that led to Nigeria's new drug legislation passed in December 1989?

When the present Government took office a national essential drugs list was already under preparation by a group of doctors, pharmacologists and pharmacists. The list was meant to contain those drugs considered necessary to treat the diseases afflicting our people. At that time it comprised about 200 drugs, but actually about 3000-4000 varieties of drugs were circulating in the country and being sold.

Another problem was that, although so many drugs were imported, when people went to the pharmacist and tried to buy what I would call "ethical drugs"—for example those necessary for treating conditions such as diabetes, hypertension, arthritis, or peptic ulcer—they were not available. Instead, the pharmacists preferred to stock mainly 'over the counter' drugs that they could sell freely, without a prescription. Rather than practising pharmacy they were behaving like drug peddlars. So a major goal of the legislation was to create a situation in

Doctors in Nigeria have not in any way opposed the essential drugs list. They are all now learning how to improve their prescribing habits. As far as the doctors are concerned there is no problem.

which pharmacists would stock all drugs necessary for our health care, while at the same time banning nonessential drugs from the country.

Moreover, some 50-60% of drugs in circulation were fake or substandard, which represented another problem we faced. We discovered that people were importing into the country drugs which looked like the genuine article but which only contained inactive substances, such as powdered chalk. Such 'products' were also being manufactured within the country. People had imported machines, such as capsule- or tablet-making equipment, and were producing these fake drugs.

A further concern was that our people were being bombarded with misleading advertisements. For example, there might be ten or more varieties of chloroquine on the market, all sold for treatment of malaria under different brand names. The general public, without realizing that all these drugs are in reality the same thing, buy one product, and if the patient



Professor Olikoye Ransome-Kuti
Minister of Health, Nigeria

didn't improve they change to another brand of what is actually the same pharmaceutical substance.

What were the main thrusts of the pharmaceutical legislation you enacted?

Firstly, under the new law any drug which is not on the essential drugs list cannot be imported, manufactured, sold, exposed for sale, or distributed in Nigeria. Secondly, drugs have to be advertised and sold under the generic name (the pharmaceutical name of the basic component). This means that when the pharmacists label their drugs the generic name must appear very boldly under the brand name: it should be at least three-quarters the size of the brand name. After the brand name is given it has to be followed by the words "brand of" followed by the generic name. Another decree also made it a punishable offence to sell any drug which was found to be

substandard or fake. We set up a task force, headed by an army officer, in all the Nigerian states, which went round checking market-places and pharmacies to see that none of these counterfeit drugs were being sold.

How do you manage to check the quality of the drugs?

One of our major deficiencies has been quality control. The Federal Government has made available US\$ 2 million to set up quality control facilities in various parts of the country. This should enable us to determine the quality of any drug within a very short time. We hope that this new investment will enable us to establish an effective quality control service to check the quality of any drug immediately it is suspected.

In some countries that have made radical changes in drug policy there has been considerable organized opposition, for example from industry and also from professional groups, to the new legislation. Did that happen in Nigeria?

Doctors in Nigeria have not in any way opposed the essential drugs list. They are all now learning how to improve their prescribing habits. We are holding workshops on the rational use of drugs in our hospitals and doctors are now beginning to prescribe generically. As far as the doctors are concerned there is no problem.

The pharmacists are another matter. They mounted a spirited campaign of opposition. The first thing they said was that if you limit the number of drugs in the country you are going to limit the ability of the doctors to prescribe. We replied, "The doctors are not complaining and they are the ones who prescribe, not you. Let the doctors complain first." So

then they said, "Why don't you use the list for the public sector and let the private sector import any amount of drugs they like." I said, "If you can demonstrate to me that the diseases affecting people in the private sector are different from those affecting the people in the public sector we shall adjust the list accordingly. Drugs are meant to treat diseases and if there is any difference in the incidence of disease between the private sector and the public sector, make a case and let the doctors present it." Moreover, if any doctor finds that a drug needs to be imported for a particular case there is provision under the decree for a special permit to be requested. So we are not limiting the doctor in any way.

During my travels I am sometimes challenged by multinational groups. They request a discussion and ask why we have passed this legislation. I explain its rationale and goals. Sometimes I get the impression that they believe that we were copying the WHO essential drugs list. I say to them, "No, we developed our own essential drugs list. We know our patterns of disease, we have listed the drugs we need for each disease and we produced our national essential drugs list." While not in any way denying WHO's valuable work in this area, we

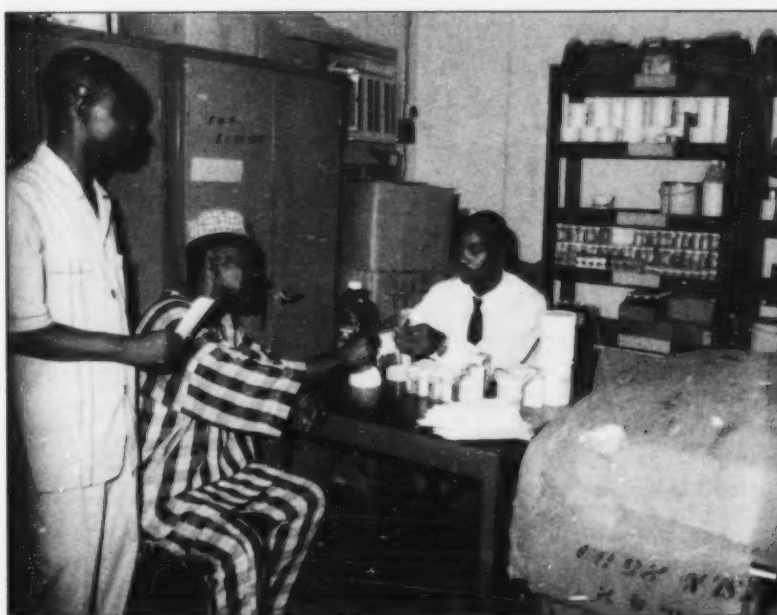
do not need anybody to tell us what our national essential drugs list should contain. The multinational groups also call for a difference to be made between the private and the public sectors, so I tell them what I told the pharmacists: "Drugs are meant for diseases not for sectors."

Yet often there is no clear distinction because drugs may be prescribed in the public sector but bought in the private sector.

Exactly, and so I explain that if you allow all these nonessential drugs in the private sector nothing will stop the two becoming mixed. Anybody can just go to the private sector and order.

Even after you establish a stable supply of rationally prescribed drugs, if the general public and patients, without understanding how to use them, put pressure on health professionals for inappropriate therapies or modes of administration, or buy 'over the counter' products in a completely irrational way, then all that previous work is wasted.

We believe the public should be enlightened on what drugs are for.



... to create a situation in which pharmacists stock necessary drugs while banning non-essential ones.



Developing countries increasingly manufacture their pharmaceutical products in support of their essential drug policies.

When we attempted to improve prescribing practice through the use of standard treatment plans (known in Nigeria as "standing orders") we met the objection that this would make health professionals obsolete. We were accused of saying that anyone could treat themselves. But what I want is that doctors should get down to treating conditions that are serious and not waste their time treating minor ailments such as insignificant coughs. I would like to see our "standing orders" become freely available so that people could learn appropriate and simple therapies.

Finally, how do you see the future development of Nigeria's pharmaceutical policy?

I think we should proceed in an orderly manner. For example, we should first of all fully implement the Essential Drug decree. Then we need to implement and learn from the experience of our Essential Drugs Programme. We must begin to educate the public and get our doctors to adopt rational prescribing habits. Then the next step is to begin to manufacture our own drugs in support of our essential drugs policy; that is very important. And then we need to

get the pharmacists to meet their professional responsibilities so that they form the vehicle by which these drugs can reach the public and contribute to the solution and not the problem. I also believe that we must extend our system of quality control so that we can effectively monitor what is going on in the drug scene. These are the steps that I believe will enable us to reach our goal of ensuring the national availability and rational use of effective medicines. ■

Professor O. Ransome-Kuti is the Nigerian Minister of Health, Federal Ministry of Health, P.M.B. 12597, Ikoyi, Lagos, Nigeria.

Action for equity

Fernando S. Antezana

Primary health care can only be truly effective if even the most remote health centres can rely on receiving regular supplies of affordable drugs of good quality, and if health workers are trained in their use. If medicines are not available at the health centre, people lose confidence in the whole system and will seek other remedies, usually from sources unqualified to diagnose or prescribe.

In the past, medicines were marketed with little concern for the varying health needs and priorities of individual countries, yet commercial promotion created demand by both prescribers and consumers—as Professor O. Ransome-Kuti indicates on page 4 in this issue. While city pharmacies might stock a large variety of the latest antibiotics, tranquilizers and tonics, a great many people living in the countryside had no access to drugs of any kind.

If there was to be equitable access to medicines that would meet real needs, absolute priority had to be given to the selection, procurement, distribution and proper use of truly essential drugs. It was to aid countries in this work that WHO established its Action Programme on Essential Drugs in 1981.

The Action Programme performs two critical functions. The first is to provide conceptual leadership and advocacy in mobilizing and coordinating a global collaborative effort to improve the world drug situation. The second is to cooperate with countries, and with international, bilateral and nongovernmental organizations, in drawing up and putting into effect national drug policies and essential drugs programmes.

The aim is always to strengthen national drug policies by developing a national system for selecting,

By helping countries to assess their health priorities, WHO's Action Programme on Essential Drugs contributes to improving health and saving lives.

procuring, storing and distributing essential drugs, and through training and monitoring to see that drugs are used properly.

The Action Programme's assistance to countries takes three forms. Firstly, there is direct country support, assisting Member States with their national drug policies and programmes. Secondly, the Programme undertakes development work aimed at producing guiding principles, methodologies and training materials, and in actually training personnel. Thirdly, the Programme conducts both global and country-specific operational research to throw light on the problem areas of drug supply and use—and on possible

solutions.

In the long run, the goal is to develop each country's self-sufficiency in terms of meeting its drug needs, but this is a difficult task. A tension between two possible objectives is continually apparent. On the one hand there is immediate demand to be met, since millions are sick or dying because they lack access to preventive care; on the other hand, action must be taken within a coherent long-term strategy. Treating the problem of today's generation to the neglect of future generations is neither wise nor practicable.

The Programme has devised a strategy which allows it to accommodate both of these interests. Policy development must start first. Without government understanding and support for improvements in drug supply, quality and use, the success of interventions will always be very limited. Second, and a close third, are interventions in supply and quality assurance. The fourth priority is to improve the rational use of drugs since this is, of course, dependent on a reliable supply.



Affordable drugs of good quality and trained health workers ensure that even the most remote health centres are effective.

In assisting countries to assess their health priorities with respect to drugs, the Action Programme is undoubtedly contributing to better health and saving lives. It helps governments to focus resources where they are needed most. Estimates vary, but sound essential drugs programmes can save governments as much as 40–50% of their budgets. Rationalizing the use of resources allows governments to save money in order to extend their health system coverage, in both quantity and quality.

In addition, national essential

drugs programmes provide a unique forum to address issues that affect many, if not all, disease control or prevention activities. By working jointly with other health sectors, essential drug initiatives can contribute to strengthening the national health care infrastructure—a step towards overall country development.

Improving health and promoting overall country development are completely consistent goals. One, of course, helps the other. But the field of essential drugs, as embodied in

WHO's Action Programme, benefits development directly through the building of national capacities in ways that few other areas of primary health care do. The activities of essential drugs programmes are designed to address the issues of today, but they develop skills and systems that will make countries better equipped to respond to the challenges of tomorrow. ■

Dr F. Antezana is Director of the Action Programme on Essential Drugs, World Health Organization, 1211 Geneva 27, Switzerland.



In assisting countries to assess their drug needs, the Action Programme contributes to better health and saves lives.

Effective – but are they safe?

Taking medicines is not always without risk. Already as far back as 1937, several hundreds of children in the USA died when a manufacturer employed the wrong – toxic – solvent in preparing an anti-infective medicine. Many of us will remember the catastrophic use, in the early 1960s, by pregnant women of a sleeping pill containing thalidomide, which resulted in the birth of thousands of malformed babies.

In the wake of these disasters many countries have established national drug control mechanisms. Permission is only given to sell drugs that comply with requirements of pharmaceutical quality, therapeutic efficacy and safety – requirements that are scientifically based and usually strict. The fact that, during the last 20 years, no major catastrophes due to drug use have occurred is an indication of the effectiveness of such regulatory systems.

However, the risk that a drug is toxic can never be completely excluded during its early development phase. Such effects may only turn up when a medicine is used by thousands, or even millions, of patients in normal medical practice. This is why WHO is working with countries to

exchange information about the side-effects of medicines, and is assisting its Member States to combine their forces in an international programme. National Centres for Adverse Drug Reactions Monitoring have been set up which meet annually, and a WHO Collaborating Centre collects reports of adverse drug effects that are received nationally in a database which currently contains over 900 000 entries.

Information on safety aspects must be shared. WHO has a network of information officers within ministries of health in more than 130 countries who are informed through a monthly newsletter. In cases of urgency an alert is sent out as a special mailing, to enable regulatory authorities to take immediate national action if required.

Properly used, drugs today are generally safe, and pose less risk than daily road traffic. Still, there is always a remote possibility that they might provoke severe adverse effects. It is for this reason that WHO has to remain vigilant.

Contributed by Dr Martijn ten Ham, Senior Scientist with the Pharmaceuticals Unit, WHO, 1211 Geneva 27, Switzerland.

How many drugs do we really need?

There can never be a short and simple answer to the question of how many medicinal drugs are to be regarded as essential. Each country's needs are different; where one national drug procurement system might require a wide range of antimalarials, another might feel a great need for cardiovascular or other drugs.

In 1977 a WHO committee of experts met to determine how many drugs were really needed to ensure a reasonable level of health care for as many people as possible. The expert committee's first Model List of Essential Drugs appeared in 1977 and contained some 200 items. All the substances on the list were of proven safety and efficacy, and possessed well understood therapeutic qualities. Most were no longer protected by patent and could be produced in quantity at reasonable cost.

WHO's Model List of Essential Drugs has stood the test of time. For although it has been regularly revised since 1977, the changes have been minor. The number of drugs on the list now stands at about 270. Some drugs have been deleted when they were overtaken by "better" substances. Others were added either because they were seen to improve the list without duplicating drugs already on it, or because they were actually new preparations which met the strict criteria of being "essential".

But the list is intended for adaptation not adoption. As the expert committee clearly stated: "Because of the great differences between countries, the preparation of a drug list of uniform, general applicability is not feasible or possible. Therefore each country has the direct responsibility of evaluating and adopting a list of essential drugs, according to its own policy in the field of health. The list of



It is vital that essential drugs should be chosen to deal with local situations.

essential drugs based on the guidelines put forward is a model which can furnish a basis for countries to identify their own priorities and to make their own selection."

WHO recommends the use of the international nonproprietary name (INN) for each drug. This is the shortened scientific name based on the active ingredient used, commonly known as the generic name. The use of generic names has many advantages. A simple name linked to the active ingredient is easily recognizable, and it also makes for greater safety in prescribing, dispensing and administering. Most of the essential drugs are no longer under patent and can be manufactured freely under their generic names.

Furthermore, such drugs can usually be bought at a much lower price.

All the evidence suggests that limiting the list of drugs brings more advantages than disadvantages to public health. It is more economical; there is less risk of duplication, confusion and mistakes; ordering, storing and distributing the medicaments is made easier; prescribers, dispensers and patients can all remember more easily the therapeutic effects and the adverse reactions.

An optimal number of drugs

In country after country a surprisingly uniform picture of drug selection has emerged. At the village health post or dispensary level, ten to fifteen medicines will meet immediate needs. At the health centre level, where the diagnostic and clinical facilities are better and the staff more highly trained, about 40 drugs will suffice for 80% to 90% of complaints. District and provincial hospitals may need around 100 drugs, and the larger referral and teaching hospitals the full range of over 200.

Nobody could reasonably claim that "the more drugs, the better". National lists containing thousands of drugs have no advantage over more limited lists. Today more than 110 countries have adapted the Model List to their own disease situation and financial resources. ■

Contributed by Daphne Fresle, Action Programme on Essential Drugs, WHO, 1211 Geneva 27, Geneva.

A Himalayan challenge

Maire C. Stapleton & Nado Dukpa



Thanks to careful management, Bhutan is able to make good quality essential drugs available to its scattered population.

Within four years, Bhutan's drug policy ensured that 80% of all essential drugs were unfailingly available at health facilities

Can a small Himalayan country with extremely rugged terrain, scattered population and limited financial resources ensure that low-cost, quality essential drugs are constantly available at all of its health facilities? "Yes, with careful management", says the Department of Health Services of the Royal Government of Bhutan, "but there has to be a commitment to such a goal and there are many difficult problems to be solved along the way".

The year 1986 was a turning point for the drug supply system in Bhutan. In that year, the government committed itself to a drug policy which was subsequently put into effect by its WHO-supported Essential Drugs Programme. Four years later, it was found that at least 80% of all essential drugs were unfailingly available at health facilities, procurement prices were lower than those paid in 1985, and 95% of tested products were of acceptable quality.

"Before the Essential Drugs Programme, we used to receive so many complaints from patients," says a pharmacy technician from Thimphu Hospital. "We had very few drugs. Sometimes there were only six products available in the dispensary and we had to turn away many patients empty-handed."

The Bhutanese Health Service consists of one national referral hospital (Thimphu), two regional hospitals, 23 district hospitals, 72 basic health units and 44 dispensaries. One of the first steps taken by the Health Department was to assign the task of developing lists of essential drugs for each type of health facility to a newly established National Drug Committee. The committee selected each item according to need, safety, effectiveness and cost.

The five lists of generically named essential drugs drawn up by the committee have acted as a basis for drug procurement since 1986. The lists have been reviewed twice since 1986 but only minor changes have been made.

Good storekeeping

Calculating how much to buy was a difficult job at first. If you don't have accurate records of how many aspirin tablets have been used in the previous year, how can you estimate the quantity needed next year? Good storekeeping is obviously very important.

"Storekeeping used to be such a headache," says a district hospital storekeeper. "We didn't have good records so we used to guess at how much to order. Then drugs would either go out of stock quickly or simply expire. In Tashigang Hospital there was no space to unpack newly received medicines because the store was filled with those that had expired over the previous ten years."

The Health Department has consequently developed revised storekeeping procedures to be used by all levels of the health service. Training materials have been prepared and all storekeepers are trained in the use of the new system. Drugs are stored in alphabetical order according to generic name. Accurate up-to-date stock ledgers are the key to everything.

Drug procurement quantities and hence the drug budget are relatively small. For the year 1991-92 only the equivalent of US\$ 680 000 is available, or about one dollar per head of population. Purchases have to be made in local currency and purchasing power is small. There are no local manufacturing or quality control facilities.

The approach to obtaining cheap, reliably supplied, quality drugs is simple: gather information about, for example, Indian manufacturers and obtain WHO Certificates for Pharmaceuticals moving in International Commerce. Obtain

tenders from reputable manufacturers and compare with UNICEF prices. Monitor delivery and quality performance of suppliers closely, and only select future suppliers when their past delivery and quality performance have been good. Test drugs routinely and ensure that the manufacturer and the relevant Drug Regulatory Authority are clearly informed of any quality control failures.

Landslides and snow

Distribution poses unique problems in Bhutan. Although all hospitals are situated on motorable roads, most of the basic health units and dispensaries are at least two days' walk from such a road. There are only a few months in each year when roads are not blocked by landslides or snow. This means that for most health facilities, drugs can be distributed only once a year.

There is consequently a very small margin for error in the drug distribution system; if drugs are received in the country with less than

18 months shelf life, they may well expire in the health facilities before they are used.

It would be naïve to aim for constant drug availability without checking whether drugs are being prescribed rationally. It would also be foolish to assume that the government can indefinitely find the money to buy drugs. These issues have not been forgotten.

Drug information is being provided to doctors, and a standard treatment guide (diagnostic guidelines and drug information for basic health units) has been prepared, distributed and used to train all paramedics. Promoting rational drug use is a never-ending task, and one of the most difficult. ■

Mrs Maire Stapleton is Coordinator, Bhutan Essential Drugs Programme, WHO, P.O. Box 175, Thimphu, Bhutan; Mr Nado Dukpa is Information Officer, Department of Health Services, Ministry for Social Services, Royal Government of Bhutan, Thimphu, Bhutan.



Good storekeeping and transport are vital prerequisites for any sound essential drugs policy.

Think – before using drugs!

Franck Nouchi

Each year, the share represented by pharmaceuticals in health insurance payments rises by between 10% and 12%; this represents a doubling of the nation's health costs every seven years.

The French have always been passionately devoted to medicine. The 17th century playwright Molière, whose skill in taking the pulse of his compatriots had no equal, accurately described this phenomenon in *Le médecin malgré lui* (The doctor in spite of himself) and in *Le malade imaginaire* (The imaginary invalid). The people of France have a profound faith in the value of medicines and remedies of all kinds. Consequently they are world champions in the league table of consumers of tranquillizers and hypnotics; they each buy an average of 50 boxes of pills every year.

This is one of those historical and cultural facts that seems to have no simple cause. After all, is life so poor in France that it justifies consumption of medicines that is twice that in Germany, or three times more than in the USA? Doctors and sociologists find it very hard to explain this bizarre behaviour, but this doesn't prevent them from issuing warnings to the French population about the health risks—and the inordinate financial cost—of this overuse.

Last year, the government decided to launch a vast national campaign on the rational use of medicines, with the slogan "A drug is not something to be



In France, a vast media campaign warns people against excessive drug-taking.

taken lightly". The public authorities used the occasion to remind people that nearly half of all poisoning cases in France are due to medicinal drugs. In 1986 alone, 17 000 people went into hospital suffering from a drug overdose (and this figure does not include attempts at suicide). Moreover, children have a natural tendency to mimic the behaviour of their parents, and usually to an even greater degree.

The consequences of this liking for medicines are truly serious. Each year, the share represented by pharmaceuticals in health insurance payments rises by between 10% and

12%; this represents a doubling of the nation's health costs every seven years. At this rate, the very survival of the social welfare system—up to now one of the best in the world—is put at risk.

For some months, television "spots" have urged French people to use medicines more wisely, and to follow the prescriptions, dosages and duration of treatment recommended by their physicians. The impact of this campaign is going to be difficult to assess because of people's tendency to underestimate their own use of medicines. On the contrary, they convince themselves that they only

Disseminating the message

The central message of the French campaign "A drug is not something to be taken lightly" is being diffused through a variety of media, including direct information to all doctors and pharmacists, inserts in professional journals, and a 30-second televised spot, which warns viewers: "There are many drugs of many kinds, they are all made for looking after your health. They all contain active substances to make the body react. They have to be taken in the right quantities, and there are combinations that must be avoided. Your doctor and your pharmacist know about drugs. Ask them for details and follow closely the treatment prescribed by your doctor. A drug is not something to be taken lightly."

Health professionals who wish to pass on the campaign message to their patients and clients will have a number of information materials at their disposal such as:

- a small poster for pharmacies or the waiting rooms

of hospitals or private practitioners, advising patients on the rational use of drugs and urging them to engage in dialogue with their doctor and pharmacist;

- a leaflet containing general information on the use of drugs, available from doctors and pharmacies.

Decentralizing the campaign is a key approach to bringing about far-reaching and lasting changes in each individual's behaviour with drugs. The networks of the campaign organizers are being called upon to pass on and boost the message. Steering committees at regional levels are responsible for organizing and implementing information and awareness activities directed at local target groups such as health professionals, press clubs, companies, secondary schools and universities.

Extracted from: Essential Drugs Monitor, 12: 20 (1991)

have recourse to drugs in cases of real illness, only 8% admitting to using medicines for the slightest illness! But the consumers of drugs are not the only ones to blame for this phenomenon. The prescribers, too, share some of the responsibility, since a "good" doctor in France is seen as one who prescribes plenty of medicines. In future, practitioners will have to learn—or relearn—not to prescribe a drug automatically, at the least sign of a complaint. This will call

for a true dialogue between doctor and patient, which in turn will inevitably entail spending rather more time on each consultation.

Many doctors believe that this change of behaviour on their part, though desirable, is bound to result in raising the price for each consultation. But that's another story... ■

Mr Franck Nouchi is a medical journalist with the newspaper Le Monde, 15 rue Falguière, 75501 Paris, France



Let us not become slaves of the colourful little pills, but learn how to use them with moderation.

Antibiotics: an overworked remedy

Jean-Daniel Rainhorn & Maimouna Bah Sangare



Vaccination saves more and more children, but their need for antibacterial drugs remains enormous

Probably more than any other pharmaceutical product, antibiotics are seen as "magic bullets" capable of treating a wide range of ailments.

Antibiotics are powerful and effective drugs in the fight against infectious diseases caused by bacteria, and have saved millions of lives since their first appearance about 50 years ago. Yet now, more and more people are dying from infectious diseases that were curable but for which we no longer have the right treatment. This is because certain bacteria are transforming themselves and developing increasing resistance to antibiotics. While some resistant strains remain confined to specific regions, others are spreading rapidly and are creating a situation which is fast becoming a global public health problem. Though some scientists foresaw the development of resistant strains, nobody imagined they would develop and spread so rapidly. More than 80% of some of the most common bacteria, *Staphylococcus aureus*, are now resistant to penicillin and ampicillin. A recent West African study undertaken jointly with WHO's Action Programme on Essential Drugs

showed similar escalating trends of bacterial resistance.

In the developing countries, infectious diseases of bacterial origin are the leading causes of sickness and death, and are responsible for more deaths than all the parasitic infectious diseases put together, (including malaria, schistosomiasis and amoebic diseases) and for more than those caused by noncommunicable diseases, including accidents, cardiovascular diseases and cancer. While many bacterial diseases, which mainly affect children, can be avoided through improved nutrition, vaccination coverage, sanitation, and access to safe drinking water, the need for antibacterial drugs still remains enormous.

New antibacterial products are appearing at an unprecedented rate. The prime cause of the rapid increase of resistant bacteria in both developing and developed countries is the abuse and inappropriate use of antibiotics. They therefore have to be used advisedly, in the right dose and for the right length of time.

Health workers who prescribe medicaments (physicians, nurses and midwives) often work under difficult conditions in the developing world. Many of them are isolated, have very few diagnostic means available, and do not have access to up-to-date and objective information about the rational use of drugs. It is quite common for practitioners to treat patients who have already resorted to self-medication, which could hide a latent disease. Because of inappropriate training, their knowledge of bacteriology or of the diagnosis and treatment of infectious diseases often has no relationship to the frequency and gravity of these

diseases in the environment where they work.

Laboratory examinations can help to determine which antibiotic to use to treat a patient. The lack of efficient bacteriological laboratories therefore contributes to the unwise use of antibiotics. Despite the simplicity and low cost of the equipment needed for a basic laboratory, quite often such facilities only exist in the capital city and a few big towns. When they do exist, it is beyond their capacity to detect resistant strains and follow up their evolution.

The responsibility of pharmacists should not be underestimated. Although in many countries a pharmacist is required to be present in each chemist's shop, this is far from being a regular practice. Drugs are often sold by staff with little or no training, which has disastrous consequences on the quality of the dispensing and on the information given to the patient.

If drug supply and distribution systems fail, a black market emerges. In the developing countries the absence of controls over supplies, and frequent shortages often oblige prescribers to choose treatments that are ineffective against the bacteria concerned. This in turn leads patients to seek their drugs on the black market

where there is no control over their origin, quality or efficacy.

Cultural beliefs and preferences add to the illogical use of antibiotics. Probably more than any other pharmaceutical product, antibiotics are seen as "magic bullets" capable of treating a wide range of ailments.

The problem of irrational use of antibacterial drugs is both complex and many-faceted. But whatever its complexity, it should not be underestimated because it has a harmful influence on the possibilities of successfully treating certain highly prevalent infectious diseases. It is therefore no exaggeration to call on the international community to give high priority to drawing up a global policy on the rational use of antibiotics.

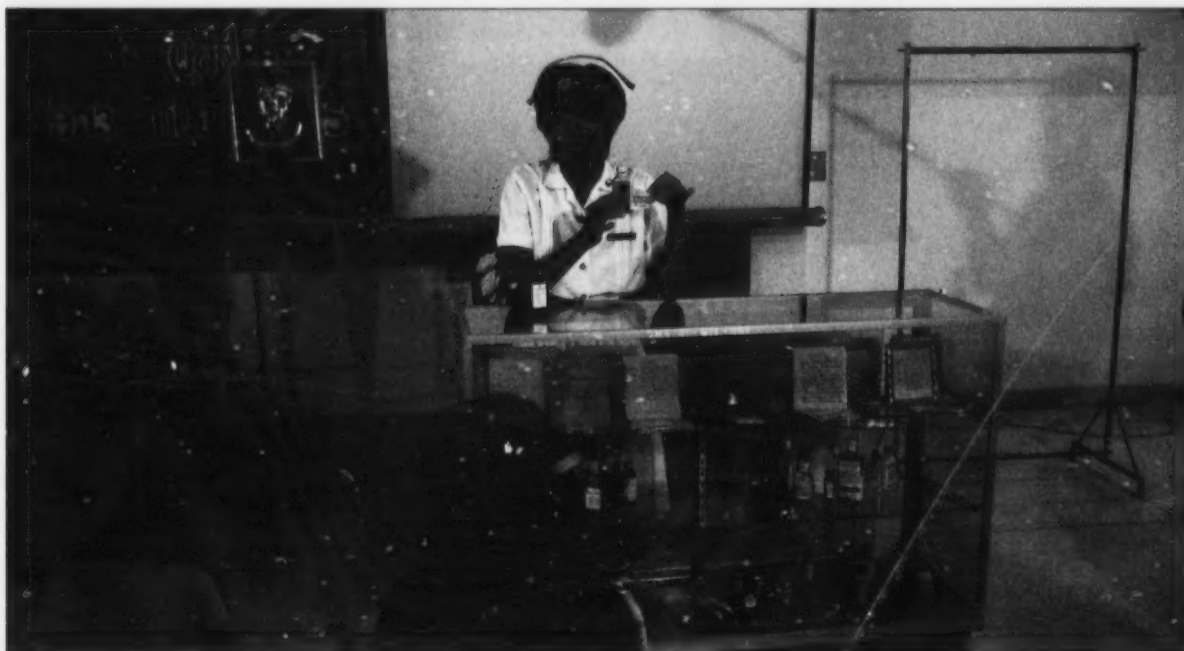
A coherent policy should promote simple and inexpensive measures that could have a considerable effect on the optimal use of antibiotics. Such measures include:

- orienting the initial training and regular retraining of prescribers and dispensers so that they learn the best ways of effectively combating infectious diseases;
- providing simple and inexpensive equipment to laboratories so that they can give valid bacteriological information;

- improving the supply and distribution of antibiotics in accordance with the principles of an essential drugs policy, thus making drugs available at locally affordable prices;
- controlling information and marketing in such a way as to promote the most efficacious antibiotics and those best adapted to the local epidemiological situation;
- carefully studying cultural attitudes so that the right kind of education and information can be deployed to encourage people to accept the most appropriate treatments for each illness.

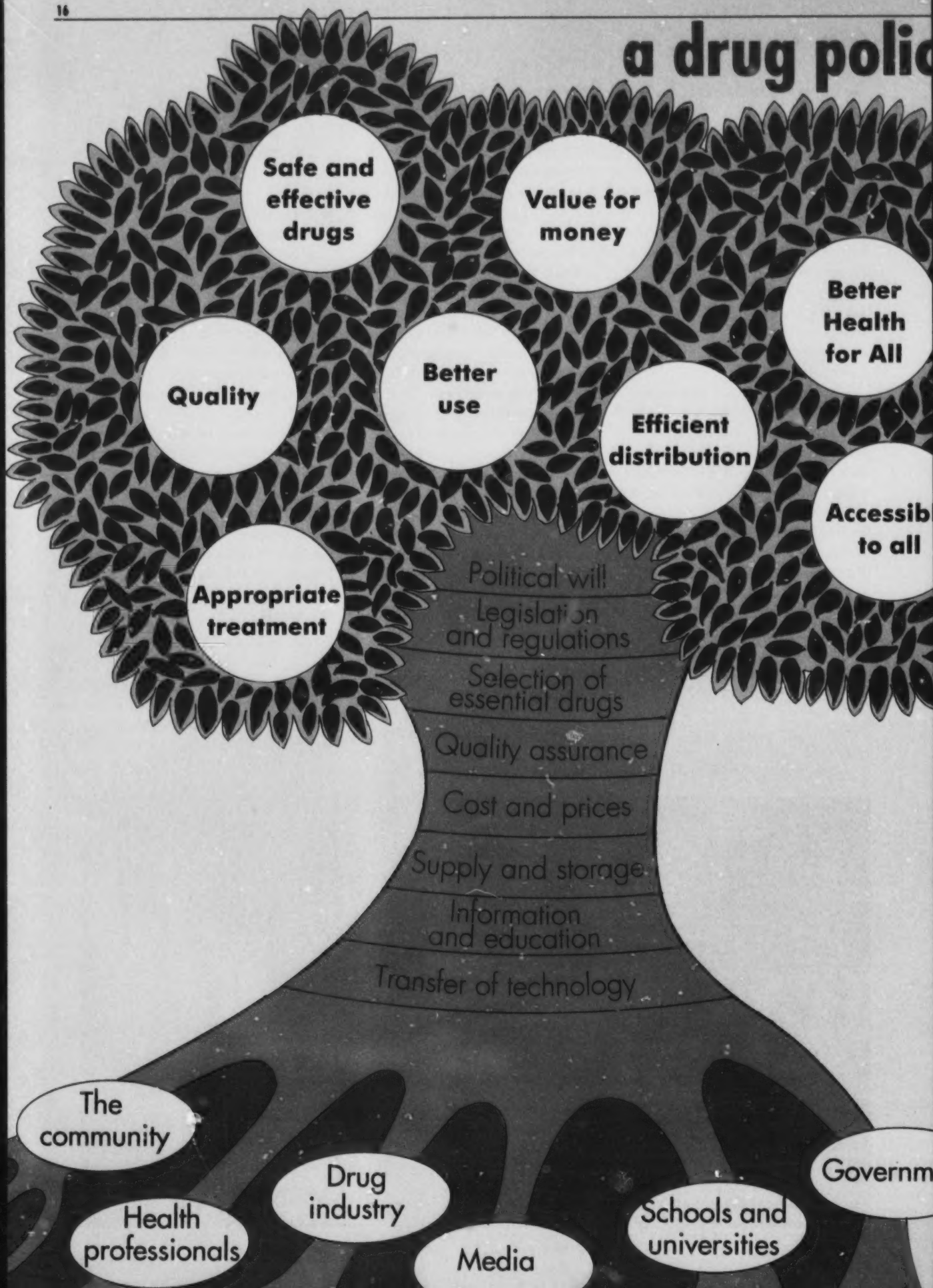
Such a line-up of measures could form the basis of an international campaign for the rational use of antibiotics, spearheaded by the health authorities and WHO; this would help to limit as much as possible the appearance and spread of resistant strains, which in the long run threaten our chances of effectively controlling the infectious diseases. ■

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Full training of prescribers and pharmacists, and full information given to patients are essential for the success of treatment.

a drug policy



that bears fruit . . .

For a national drug policy to bear fruit it must be firmly rooted in the **community** – with at its core the goal of equitable access to essential drugs. It will need the full involvement of all **health professionals** and the support of the **pharmaceutical industry**. The **media** have an important role to play in keeping the public informed about the rational use of drugs, while **schools and universities** are the key to creating a critical mass of knowledgeable patients and prescribers. Above all, the **government** must offer strong support to the national drug policy, as a keystone of its national health policy.

From these basic roots spring the different interlocking segments that will guarantee the functioning of the drug policy.

There must be unstinting **political will** on the part of the government, as it draws up and puts into effect the necessary **legislation and regulations**. Drugs should be **selected** and made available to meet the real health care needs of the community, and a system developed to ensure that they are of **good quality**.

Procurement should be centralized and carefully coordinated to obtain economies of scale and optimal **prices**.

Supply and storage facilities must guarantee availability and safeguard drugs in all weathers, as well as during transport from central medical stores to the remotest health post.

Information about all drugs and vaccines used is essential for the health professionals prescribing them; and the public must be **educated** in their proper use. Finally, **transfer of technology** is needed to share out the benefits of new pharmaceutical developments.

Now the drug policy will be ready to bear fruit! The public can be confident that the drugs prescribed to them are both **safe and effective**, and are of guaranteed **quality**, thus ensuring that they get **appropriate treatment**. They will also know how to make **better use** of the drugs available, and can feel that they are getting **value for money**. Because there will be **efficient distribution** of the essential drugs, they should be **accessible to all**, and there will no longer be unfair gaps in availability. In the long run, the best fruit of all to grow on this sturdy tree will be: **Better health for all!** ■



Central medical stores (above) must be properly equipped to safeguard drugs in all climates. Vaccines (right) are particularly susceptible to fluctuations in temperature. Drugs also need protection during transport from central stores to often remote health posts and clinics (below)



National drug policies have to embrace a very wide range of substances, from pills to capsules to solvents, inhalants and soluble powders. They also ensure quality control of all these products, whether manufactured overseas and imported, or (left) made and distributed locally.

Why are injections so popular?

Anita Hardon



Prescribing malaria pills in Sudan. Oral therapy is just as effective as injections . . . and costs less.

"Iwant an injection" is a request commonly heard by health workers in many countries, where patients prefer injections to oral medications. The reason for this popularity of the syringe may be the spectacular cures very often achieved with injections, such as quinine to treat malaria and penicillin to treat yaws. However, apart from their reputed efficacy, economic factors may also determine their widespread use. It is evident that healers can ask for a higher fee after administering an injection than after prescribing some tablets.

The overuse and unnecessary use of injections is a problem because it adds an extra burden to household and health centre budgets that are often already limited and, especially in Africa, are diminishing because of the economic crisis. In addition, patients may risk getting infections such as

AIDS or hepatitis, which can be spread by unhygienically prepared needles.

Essential drugs programmes in developing countries want to reduce the overuse of injections. So programme administrators need to know who does the injecting; how often they give injections and for what purpose; whether these are used when there is no medical justification; and what hygienic measures are taken. Only then can an intervention strategy be developed that focuses on the main areas of misuse.

WHO's Drug Action Programme, in consultation with the Expanded Programme on Immunization and the Global Programme on AIDS, initiated an Injection Practices research project in three developing countries (Indonesia, Senegal, Uganda) where the misuse of injections is considered to be a problem. The studies started in

Overuse of injections adds an extra burden to household and health centre budgets

May 1990 and will be completed in the summer of 1992.

Some preliminary findings reported at an interim workshop of the multicountry study pointed to serious problems concerning both the medical rationality of injection use and the hygienic conditions under which injections are administered.

Shortage of syringes and needles

The Ugandan researchers observed that drug kits supplied to the government health clinics under the essential drugs programme contain six injectables. Penicillin and chloroquine are the most commonly prescribed. The kits contain reusable syringes and needles. However, shortages in kerosene supply (needed to boil the water to sterilize needles and syringes) are one of the problems confronting health workers, who often are not aware of and trained in the need for absolute hygiene when giving injections. Moreover, syringes are in high demand. During the AIDS campaign, patients became worried about infection through needles; many doctors advised them to keep their own equipment at home. So health workers sold them or gave away syringes and needles which patients

kept for their own individual use. This led to acute shortage at the government health centres.

The Indonesian research team studied drug management and distribution in government health centres, and found that nearly 50% of children under five and 75% of patients aged five and over receive one or more injections when visiting a health centre; this suggests widespread overuse.

Preliminary results of the studies in all three countries show how complicated the provision of injections is: needles, syringes and the pharmaceutical substance may all come from different sources. In Senegal, for example, a doctor commonly prescribes an injection, then leaves it to the nurse in the health centre to administer it. In some cases the injectable drug is out of stock, and the patient has to go to the pharmacy to buy the drug, then return to the health centre to have it injected. If an essential drugs programme wants to improve this practice, it will need to address the prescribing practices of the doctor and the injection practices of the nurse; it will also need to educate the consumer and explain that in many cases an injection is not needed for recovery.

In all three countries, health workers with minimal training (and sometimes even untrained guards and cleaning staff of the health centre!) tend to administer injections more often than doctors. By doing so these workers are considered better health workers by the patients and can at the same time earn some extra income.

The patients' viewpoints

People often credit the power of injections to their belief that the medicine is injected directly into the blood. In Uganda the researchers found that people relate the risk of getting an abscess from an unhygienic injection to the person who delivers it. They would rather be injected by someone they trust (members of their own family, relatives or neighbours) than by a health worker with whom they have no specific relationship. Another reason suggested for choosing such informal injection practitioners is the confidentiality they can provide in treating sexually transmitted diseases. The health centre would require the patient to inform his or her sexual partners about such diseases.

Final results of the research projects will certainly challenge the essential drugs programmes in Indonesia, Senegal and Uganda to undertake a campaign on the rational use of injections. Such a campaign will need to tackle the inappropriate use of injections by a variety of health care personnel, including doctors, nurses and untrained health centre staff. It will also have to reach consumers whose demand for this method of treatment is one of the main reasons for its abuse. In educating consumers, health educators should acknowledge that people are increasingly worried about the adverse effects of injections, particularly the risk of abscesses. If people's own concerns are at the core of the public education campaign, such a campaign is more likely to succeed. ■

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Immunizing children in Mexico. Injections can save lives, but should be administered only when needed.

Involving the consumers

Catherine Hodgkin & Oscar Lanza



Consumers have an important role to play in shaping policies for the rational use of drugs.

"When we were involved in educational work in the poor areas of Chimbote we found it hard to convince people and sometimes doubted the effectiveness of our work. When the cholera epidemic hit the region people remembered our work and remembered the health messages; only then did we realize that we were having an impact." Roberto Lopez—public health worker in Peru

At the very heart of the principles of primary health care is the idea of involving people in health care. Consumers should be involved when such issues as the delivery of appropriate medicines at the right price to the right places at the right time are under discussion. At the close of the Nairobi conference on the Rational Use of Drugs in 1985, WHO's then Director-General, Dr Halfdan Mahler, clearly defined the responsibility of consumers within the revised drug strategy.

He said: "The public, patients and consumer groups have the following responsibilities: improving the relevance and quality of information for the public; sharing responsibility with governments and nongovernmental organizations for the education of consumers on drug matters; maintaining vigilance and demanding compliance with

established criteria for drug advertising, and drawing the attention of the health authorities to suspected infringements; and supporting essential drugs programmes."

Consumer organizations have responded internationally to this call and there has been widespread recognition of the important role which consumers have to play, both in shaping policy on health and medicines, and in health education and education on the principles of rational drug use. Latin America provides one illustration of this global response.

In Latin America a regional network of consumer organizations and health groups has been developed under the name Acción Internacional por la Salud (AIS). The network is part of Health Action International and works closely with the International Organization of Consumers Unions. The groups cooperating in AIS have become powerful advocates of essential drugs policies; they are involved in a wide range of activities, often in partnership with the medical profession, the Pan American Health Organization, and ministries of health.

Interest in this regional network has grown rapidly since its founding meeting five years ago, and 14 countries attended the AIS regional meeting and training workshop which was organized in 1991. At that meeting, a publication detailing the results of a twelve-country study into the abuse of antidiarrhoeals was launched.

The Latin American response to the challenge to consumers can perhaps best be illustrated by looking at one month—January 1991—in the calendar of a busy national AIS group.

- Fifty rural doctors attended an AIS seminar on primary health care and essential drugs programmes.

Besides lectures and discussions on essential drugs, they also saw a presentation of a video made by AIS Bolivia and received materials to use in their workplaces.

- Thirty recently graduated nurses appointed to work in rural areas attended an AIS training seminar on rational drug use. At the end, they were provided with posters promoting rational drug use.
- The 24th issue of the AIS bulletin was published. This issue focused on ways of promoting breast-feeding, and also identified pharmaceuticals which were withdrawn in some countries but were still available in Bolivia.
- A conference promoting primary health care and the essential drugs concept was arranged at Tupiza, a small town 12 hours' train journey from La Paz, for doctors, nurses and auxiliary health personnel.
- A fully illustrated manual for health workers called *The rational use of drugs* was officially launched. Both drawings and text are simple and make the manual an easy reference guide.
- A popular radio programme invited AIS participants to present the basic principles of rational drug use. This was followed by a phone-in to enable listeners to ask their own questions.
- *El Diario*, one of Bolivia's most popular daily newspapers, devoted a two-page medical supplement to the work of AIS and to the importance of rational drug use.
- The chief medical officer of WHO's tuberculosis control programme visited the AIS coordinator to discuss the situation of this disease in Bolivia and examine possible areas of cooperation.

- The core group was busy finalizing plans for the launch of a full-colour cartoon magazine for children. This comic was distributed throughout schools in Bolivia, promoting basic health messages on nutrition, sanitation and the rational use of drugs. With it were detailed guidelines for teachers on how to use the material and how to follow up on the lessons.

These are just some examples of ways in which consumers are getting together, not only in Latin America but also in other continents, to promote the rational use of drugs. At the heart of this work is the conviction

that the success of essential drugs programmes is dependent, to an important extent, on whether people understand them and believe that their interests are served by them.

Consumers are talking not only about the provision and the prices of safe drugs, but also the importance of using them safely—and the safety of the people using them. ■

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An increasing number of Latin American governments are making essential drugs readily accessible to everyone.

Unwelcome gifts

Christel Albert

Relief workers are disappointed – and even angry – when they receive bottles of eye lotion when they need drugs to treat malaria or parasitic diseases.

One of my former colleagues in a refugee health program, now run by the Christian Medical Commission, was named Ahmed. Jokingly, we called him Ahmed "Mishmash". Ahmed was in charge of our donations store. The store was filled with a mishmash of unsolicited donations of pharmaceuticals and medical supplies, sent by well-meaning people who had heard of the emergency. We did not want these items to clutter up the well-organized system of our central medical store, which was based on a list of about 40 essential drugs. So, Ahmed Mishmash worked among boxes of samples, expired drugs and brand-name medicines labelled in a language that at best only a few of us understood. Meanwhile, when time permitted we helped to sort through the boxes to find what we could use. The rest were finally destroyed.

Most of these donations came from anonymous sources, which is typical in emergency situations. Misinterpreting an appeal for assistance, where drugs usually feature high among the items requested, people feel that they have to do something. They empty their drug cabinets at home, collect free samples from doctors' offices and pharmacies, and send these off together with other relief goods. Even if donations are made in a less haphazard way, the result is not necessarily helpful.



Unsolicited donations of pharmaceuticals that are unadapted to local needs often present a problem to health or relief workers.

Another typical situation is that of a hospital in a developing country, struggling to provide much-needed services to the local population. The hospital has friends overseas who know about the difficult economic conditions under which the hospital is operating. These friends live in a country where drugs are available in abundance, doctors have cupboards full of samples that they will not use, and pharmacies and drug companies have surplus stocks. Why not direct these to a charitable purpose? A well-meaning support group is formed, collection takes place eagerly, doctors feel good about getting rid of excess samples, a container is filled with pharmaceuticals and other supplies, and it is sent off.

The result, however, is

disappointment at the receiving end. The hospital is one which treats patients with respiratory infections and with parasitic diseases such as malaria and schistosomiasis. The colourful collection of medicines consists of drugs for cardiovascular diseases, about 50 analgesic and antirheumatic remedies, enzyme preparations, appetite depressants, and other drugs known to only a few of the expatriate staff of the hospital, who happen to speak the language of the donor country. It takes days to sort out what can be used. The rest is burned in a big fire behind the hospital. Who has benefited?

In another situation, the media in an affluent country may report on an emergency situation in a distant, poorer country. Well-meaning people

take up the matter, and an organization is formed to provide relief assistance. Appeals are made: people respond. The solidarity group gladly accepts the offer made by a drug company to donate free medicines. Transport by air is arranged. Expectations are high at the receiving end in anticipation of the consignment of essential drugs, especially since donor response to the difficult situation has been slow so far. The relief workers are disappointed, and even angry, when they find that the consignment consists of bottles of eye lotion, already beyond expiry date, when they are desperately working to treat people for malaria, pneumonia and parasitic diseases. In addition, they must find time and a way to destroy tens of thousands of

these bottles.

These stories are based on actual experience, and they illustrate some of the responses to situations in which drugs are urgently needed: anonymous donations in kind, or a response based on direct contact, or an organized but uninformed response. All of them cause embarrassment to the recipients, who in most cases find it difficult to communicate this to the donors.

What is a useful pharmaceutical donation? The answer is simple: in most cases, it is money to purchase generic essential drugs from a supplier either inside or outside the country. If donations are made in kind, they should:

- be based on a proper assessment of need;
- only consist of drugs included in

national drug lists, if they exist, or in the WHO model list of essential drugs;

- always be labelled by their generic or international non-proprietary name (INN);
- have a shelf-life of at least one year.

In many situations an Emergency Health Kit, containing only the most essential drugs, dressings, and some basic equipment, would be the most appropriate and appreciated response. Recommendations for such a kit have been developed by WHO in collaboration with various organizations. ■

Christel Albert is a Pharmaceutical Adviser with the Christian Medical Commission, World Council of Churches, 150 route de Ferney, 1211 Geneva 20, Switzerland.

What should emergency health kits contain?

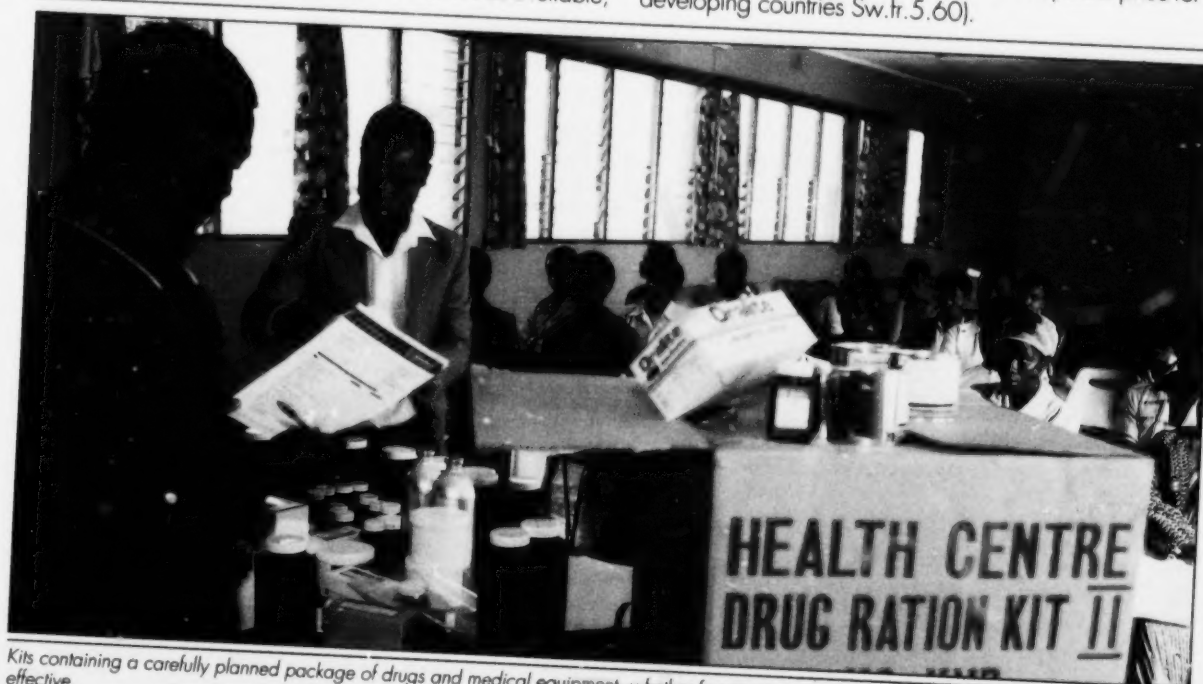
United Nations agencies and other bodies are increasingly called upon to respond to large-scale emergencies and disasters that may occur anywhere in the world, and which may pose a serious threat to public health.

In order to facilitate a swift and effective response with supplies to meet priority needs in the event of disasters, WHO, together with other aid agencies, has developed standard lists of the essential drugs and medical supplies that an emergency kit should contain.

The WHO-recommended kit has been adopted by many organizations and national authorities as a reliable,

appropriate and quickly available source of essential medicines and equipment needed for basic medical care of displaced populations.

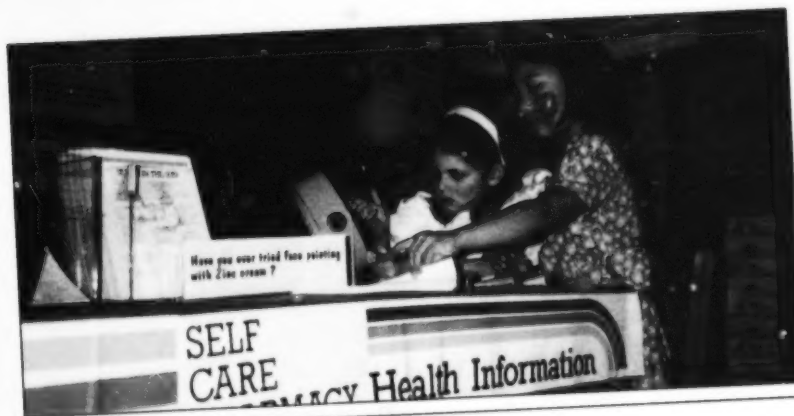
In collaboration with a wide range of international partners, and after field testing, the kit was revised. WHO has now produced a revised list of drugs and medical supplies to meet the needs of 10 000 people for about 3 months, under the title *The new emergency health kit*. This publication is available in English, French and Spanish from WHO, Distribution and Sales, 1211 Geneva 27, Switzerland (Price Sw.fr. 8.-/US\$ 7.20. Special price for developing countries Sw.fr. 5.60).



Kits containing a carefully planned package of drugs and medical equipment, whether for emergency or day-to-day use, have proved to be highly effective.

Pharmacy Self Care in Australia

Leone Coper



Information: an essential step towards the sound use of drugs.

Over a decade ago WHO declared that a more active involvement of people in their own and their dependents' health care was necessary to further improve community health. Governments also began to recognize the need to actively promote healthy life-styles and to place more emphasis on primary health care and personal involvement in health.

The Pharmaceutical Society of Australia, the professional organization for all Australian pharmacists, recognized that if this self-care movement was to improve health, it was important for people to have access to quality health information. Pharmacists, because of their accessibility and professionalism, were seen to be ideally positioned to assist people in informed self-care. So the Society developed the Pharmacy Self Care programme, designed to provide pharmacists with the training and resources needed to carry out their primary health care role effectively, not just in the traditional therapeutic area but also in illness prevention and health promotion.

Pharmacy Self Care, now a joint programme with the Pharmacy Guild, the body which represents Australian pharmacy owners, enables pharmacists to provide the range of primary health care advice which meets the needs of the public.

For the first four years, the programme concentrated on increasing the public's awareness of the part individuals can play in dealing with common illnesses and life-style issues so as to achieve better health.

Fact cards, posters, newsletters and newspaper articles on topics ranging from nappy rash to relaxation techniques, as well as audio tapes, videos and correspondence courses, all helped to give pharmacists and their staff the necessary knowledge and counselling skills.

Among the topics dealt with was drug abuse. Since some of the most commonly misused drugs are prescribed medicines, Pharmacy Self Care designed a "Med-aware" campaign to alert people to the need to be wise in the use of medicines. This campaign aims to help people to understand their medicines, the importance of taking them correctly, and the need to ask questions about possible interactions. It turned out that 80% of people interviewed had a problem with medicine use. Confusion about their medicines was one of the most common problems; but another cause of misuse was when patients consulted several doctors or, without realizing it, consumed different brand names or forms of the same drug, with the risk of dangerous overuse or wastage.

One man, alerted by the campaign,

A well-planned campaign is making the Australian public aware of the need to use medicines wisely.

wondered if his medicines were causing his constant headache. He had consulted a number of doctors and had undergone many tests, all of which failed to show the cause. After a review of his medication, the pharmacist discovered that the man had been taking the same drug in three different forms, and it was this that caused his headache.

Using drugs for good or ill

Another initiative taken by Australian pharmacists to reduce the misuse of drugs is the educational kit "Using drugs for good or ill", aimed at 11- and 12-year olds and their parents. The kit is a teacher/student resource dealing with medicinal drugs, placed within the context of drugs in general. It aims to give children an understanding of what drugs are, how they affect the body and how to use them safely and wisely. By teaching children about their own bodies and the effects of drugs, it is hoped that they will make informed decisions later in life about medicinal, social (alcohol and tobacco) and illegal drugs.

Through programmes such as Med-aware and the educational kit, pharmacists in Australia are making the public aware of the importance of using medicines wisely. Their work is shifting the emphasis of pharmacy towards counselling and the provision of professional advice, so as to ensure that medicines are used to the benefit of the community's health. ■

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WHO and industry working together

African trypanosomiasis (sleeping sickness), which affects an estimated 25 000 people annually, is fatal if untreated. The disease is caused by parasites transmitted by tsetse flies; it occurs in scattered foci throughout sub-Saharan Africa—an area of some 10 million km². WHO estimates that over 50 million people in 36 countries are at risk of contracting the disease.

The onset of sleeping sickness is characterized by malaise, fatigue and irregular, low fever. It is followed by a spectrum of symptoms, including somnolence, high fever, joint pains, swollen tissues and enlarged liver and spleen. As the disease progresses and the parasites invade the central nervous system, patients experience mental deterioration, seizures, coma and death.

WHO and a major American pharmaceutical company, Marion Merrel Dow, have announced the first new drug in forty years for treatment of the disease. The new drug, eflornithine, has already been used to treat successfully more than 600 patients infected with the West African variety of sleeping sickness, most of whom were at an advanced stage of the disease. Very few side-effects were reported, an advantage over other drugs available until now. When eflornithine is administered intravenously—the most effective method—adverse effects are very rare; when given orally, however, it may cause mild diarrhoea, nausea and vomiting.

Eflornithine was originally developed as a potential therapy for cancer, but promising experimental studies in animals were not replicated in clinical trials in man. However, research on the drug had clearly established its safety and tolerance in

humans, so Marion Merrel Dow published their findings and offered it to scientific researchers. Dr Cyrus Bacchi of the Haskins Laboratory, Pace University, New York City, was studying the metabolic pathways of trypanosomes under a grant from the UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases (TDR). It was he who first demonstrated in the laboratory that eflornithine worked against the multiplication system of the trypanosome parasites.

"Marion Merrel Dow have offered WHO the rights, the patent and the technical know-how for the manufacture of eflornithine on a royalty-free basis," explained Dr Tore Godal, Director of TDR. The pharmaceutical company will manufacture the drug in the USA and France and distribute it at cost price to hospitals and health centres in Africa. ■

A new approach to teaching drug prescribing

In medical schools, students are traditionally taught quite a lot of theoretical pharmacology but far less about practical therapeutics. So their skills in choosing and prescribing drugs rationally remain undeveloped.

If these students are not taught how to choose and prescribe essential drugs rationally, they have no alternative but to copy the prescribing behaviour of their more "experienced" colleagues after they graduate. They will then be susceptible to influences which cause irrational prescribing because they had not been taught how to recognize and cope with such phenomena. Changing deeply rooted habits is very difficult. That is why we need to act before poor prescribing habits get a chance to develop.

The Action Programme's model guide to good prescribing, produced by the WHO Action Programme on Essential Drugs, is a step in that direction. It is based on an innovative training programme in rational drug prescribing developed at the University of Groningen, Netherlands. The guide is intended to help students learn to think as they will have to in practice, by describing how to analyse and use the information available to solve a prescribing problem and decide on appropriate drug therapy, or whether drugs are needed at all. The whole process from the patient's complaint to monitoring the results of a drug treatment is described step by step. The "how" and "why" of each stage is clarified, and illustrated by real life examples. The guide also explains how to develop a "personal" drug list, selected according to rational principles.

The guide is at present being field tested by eight medical schools in developed and developing countries.

Ideas for action

How to use medicines safely

- Only use a medicine when it is needed. Rest, good food and lots to drink are often enough to help a person get better.
- Don't insist on injections. Although in some countries injections are commonly regarded as more effective, in fact most drugs work just as well or better when taken by mouth. Injections cost more and can be dangerous if administered by an untrained person or if needles and syringes are not properly sterilized.
- Don't buy medicines from unauthorized sources, such as street pedlars. Only use medicines from proper packages with instruction labels.
- Take the medicine at the right times and in the right amounts.
- Always finish the full course of medication even if you feel better.
- Don't use someone else's medicine and don't share your own.
- Keep all medicines in a cool place out of the reach of young children.

Suggested action by teachers

Have you thought of including basic information about medicines in your health education activities? You could invite the local pharmacist or health worker to talk to the children about the safe use of medicinal drugs (and about how to avoid the illicit drugs that can only do them harm). A visit to the nearest clinic or health centre could also be very instructive.

You could also do some of the following with the children.

- Make up a play or a puppet show; for example, acting the story of a false "doctor" who comes to the village with bottles full of different coloured water. He makes a long speech which the people believe; they buy his medicines and he goes away with a lot of money, but no one gets better. He comes back next year but this time the people chase him away.
- Draw posters to show the rules about safe use of medicines, described above.
- Make up songs or stories with the medicine safety rules and teach them to friends.
- Find an advertisement for some kind of medicine and discuss it. What does it say? What does the picture tell us? Should we believe it? Why, or why not?
- Find out the cost of a bottle of "tonic" (medicine which is claimed to make us strong). What does it contain? Compare the price of one bottle of tonic with an orange, a kilo of green leaves, or other local nutritious foods which could be eaten instead of taking the tonic. Which is the best use of the money?

Adapted from Child-to-Child Activity sheet 6.9, Medicines and how they can help us. Child-to-Child, University of London Institute of Education, 20 Bedford Way, London WC1 HOAL, England.

Know your medicines. Are you taking a medicinal drug these days? If so, do you know enough about it? How many drugs do you take? Try the following quiz.

	Yes	No
1. Do you know what each drug is used for?	☐	☐
2. Do you know for how long it should be taken?	☐	☐
3. Do you know how much you should take of every drug?	☐	☐
4. Do you know how often and when during the day you should take your medicines?	☐	☐
5. Do you remember to take them as prescribed?	☐	☐
6. Do you feel you know enough about your medicines, their effects and their side-effects?	☐	☐

If you have answered "No" to one or more of the questions, you should contact your health centre, hospital, nurse or doctor.

(Adapted from a brochure issued by Apoteksbolaget AB, 10514 Stockholm, Sweden)



Do not insist on injections: most drugs work just as well or even better when taken by mouth.

Know your rights

When patients don't use their prescribed medicines properly they will not feel better; instead illnesses recur, chronic conditions remain uncontrolled and communicable diseases are needlessly transmitted. Medicines are expensive, and money is wasted if they are not used properly.

Patients often complain that health workers seem too busy to give thorough explanations about the medicines they prescribe. On the other hand, health workers say that they do provide necessary information and that patients seem to understand because they don't ask questions.

You have the right to know the key facts about the medicines you take, and it is up to you to make sure you get this information in a way you understand. The knowledge to use your medicines wisely is not an "extra", it is a basic part of good health care.

You have the right to ask questions. Many people hate to bother their doctor or nurse with questions, but if you don't understand how to take your medicines or why you are doing so, the chances are you will make a mistake. Doctors and pharmacists use words you may not understand, so do ask questions, even if you are afraid they might be silly.

For example, ask:

- how to read the label on the medicine bottle;
- the name of the medicine and what it is supposed to do;
- how and when to take it and for how long;
- what foods, drinks and other medicines or activities to avoid while taking it;
- if there could be any side-effects and what to do if they occur. ■

*Adapted from: Talk about prescriptions.
National Council on Patient Information and
Education, 666 Eleventh St. N.W., Suite 810,
Washington, D.C. 20001, USA.*

WHO in action

Chinese herb against malaria

Extracts from the Qinghao plant (*Artemisia annua*) have been used in Chinese traditional medicine for over 2000 years to treat the chills and fever associated with malaria. In the 1960s the Chinese authorities, in search of new drugs, ordered a systematic examination of indigenous plants used in traditional remedies. In 1972 Chinese scientists working with qinghao isolated the active constituent, artemisinin, which was found to be active against malaria parasites.

From the early 1980s WHO started to collaborate with Chinese researchers in developing drugs derived from qinghao. Three compounds, arteether, artemether and another derivative, artesunate, look especially promising. In China, scientists have already taken the lead in developing artemether. Over 2 million doses of the drug have been administered in Chinese clinics and in countries outside China, confirming its efficacy, especially in the dangerous cerebral type of malaria. WHO's Programme for Research and Training in Tropical Diseases (TDR) will be supporting clinical trials with artemether which are due to start in Kenya, Nigeria, Malawi, Papua New Guinea, Thailand, and Vietnam.

While continuing to help Chinese scientists develop information needed for drug registration of artemether outside of China, TDR has been supporting work with arteether. As part of a TDR-financed collaborative research programme with the Walter Reed Army Institute of Research in Washington D.C., USA, TDR has completed the preclinical trials of arteether.

The first human clinical trial to study the toxicity of arteether in healthy volunteers is ready to go ahead. It will take place in the Netherlands, following an agreement

between the Dutch Ministry of Development and Cooperation, the World Health Organization, and the Dutch pharmaceutical company ACF Beheer. In order to ensure that the drug will be affordable in developing countries, the company has agreed to manufacture the drug with a defined, small margin of profit.

Drug quality and accessibility go hand in hand

If you take a tablet for a headache and it doesn't work because it's fake, that's disturbing, but not life threatening. But if the "antibiotic" prescribed for your seriously ill child is just made of chalk because it's counterfeit, the consequences could be disastrous. And if you can buy over the counter in your local pharmacy or store a drug which, unknown to you, could have severe side-effects, then you might sustain long-term injury.

When governments take action to increase people's access to essential drugs they also have to take steps to ensure drug quality and control. In settings where regulation and enforcement are weak, counterfeit drugs can be common. Drugs may also be unsafe and ineffective due to poor manufacturing procedures and equipment, or problems arising during storage and distribution, and the lack of an adequate system to monitor quality, marketing and dispensing.

The objectives of drug regulation at the national level are frequently ill-defined. Legislation is often inadequate, and the existing administrative structure may not address immediate needs. This means that unsafe or spurious drugs can enter the country or be manufactured locally creating potentially serious problems in health care. It may also mean that there is little or no effective control to ensure that pharmaceutical information and promotion are accurate and ethical.

Currently, WHO's Action Programme on Essential Drugs is working with countries to strengthen national drug regulatory capacities and to ensure that the drug supply infrastructure has in-built measures for quality assurance. Upgrading storage and distribution facilities and improving inventory controls can minimize quality problems arising from delays or inappropriate handling conditions. Instituting WHO's Recommended Good Manufacturing Practices within local manufacturing firms can prevent quality problems before they arise. An effective drug regulatory authority, which includes drug registration and inspection, should be the cornerstone of the system. Preferably, countries should also have a quality control laboratory to undertake drug testing.

WHO is assisting governments in many parts of the world to improve their systems of quality assurance through such activities as training courses, guiding principles for small regulatory authorities, the development of simple computerized registration systems, and the setting up of national or regional quality control laboratories. Support to regional networks aimed at harmonizing drug regulatory requirements, fostering trade in locally manufactured medicines, and impeding international commerce in substandard products is also part of this international collaboration.

WHO's Certification Scheme on the Quality of Pharmaceutical Products moving in International Commerce also has an important role to play in ensuring that drugs are of good quality. The scheme — to which 112 countries are signatories — enables importers to find out whether the supplier meets WHO's requirements for good manufacturing practices in regularly inspected factories, and whether the drug is registered in the exporting country. WHO is working to strengthen the

abilities of national authorities to transmit, receive, and digest the information which the scheme provides.

Quality assurance is a necessity, not a luxury. Governments have a responsibility to monitor and control the often powerful pharmaceutical substances they permit to be manufactured, imported and marketed. However, many Third World countries have not yet been able to put in place a comprehensive and enforceable drug regulatory system. In this situation, developed countries have a particular responsibility not to use double standards and market shoddy or dangerous products, with misleading or incomplete product information, which would be unacceptable in a country with a well-developed regulatory system.

Getting the right treatment

When a doctor or other health worker gives you one or more drugs, you want to be sure that these will be safe and effective for your particular complaint.

In practice this is not always easy because prescribing is a complex procedure involving many steps in decision-making. Doctors and other health workers need to know not only

which drug to prescribe for you but also how much of it you should take. This will depend on many factors such as your weight, age, ethnic origin, any other disease you may have, and any other medicines you may be taking. For example, if you are a woman taking the contraceptive pill, other drugs which are broken down in the liver may reduce the pill's efficacy, which could result in an unplanned pregnancy.

Sadly, in many countries health workers (including doctors) often do not have up-to-date knowledge of the drugs they prescribe, and this leads to a great deal of unsafe and inappropriate medication. Governments and families will often spend scarce resources on unnecessary drugs. For example, most of the antidiarrhoeal medicines used for acute diarrhoea in children have no proven value, but they are still frequently prescribed. Similarly, many expensive antibiotics are prescribed for confirmed bacterial chest infections when cheaper, equally efficacious antibiotics are available.

WHO collaborates with countries through a wide range of information, education and training activities to improve prescribing practices and ensure that people always receive the correct medication. The Action Programme on Essential Drugs assists countries in the development of

therapeutic manuals, standard treatment guides based on national essential drug lists, and training materials. And a series of publications, called *WHO Model Prescribing Information*, prepared by the Organization's Pharmaceuticals Programme, provides up-to-date and independent clinical information on essential drugs, which is directed to governments for adaptation according to local circumstances. One example is *Drugs used in Parasitic Diseases*, which has recently been reprinted in India. ■



Getting the right treatment is of paramount importance for vulnerable groups such as pregnant women and children.

WHO on . . .

AIDS

■ What is AIDS?

AIDS is the late stage of an infection caused by HIV, or human immunodeficiency virus. The virus slowly destroys the body's immune system, leaving the person increasingly defenceless against other infections and some cancers.

■ How long does AIDS take to develop?

From the time a person is first infected with HIV, AIDS takes an average of ten years to develop. Experience to date shows that most if not all HIV-infected people will sooner or later develop AIDS.

■ Can HIV-infected people who do not have AIDS spread the virus?

Yes, the virus can be transmitted even when there are no signs of disease. HIV-infected people usually go for many years without any signs of disease, and are often unaware of their infection. They may, therefore, unwittingly pass it to others.

■ How is HIV transmitted?

AIDS is essentially a sexually transmitted disease which, like some others such as hepatitis B and syphilis, can also be transmitted through blood and from mother to child.

Sexual intercourse. Semen and vaginal fluids contain the virus. HIV is mainly transmitted through vaginal, anal and also oral sex when a condom is not used. Sexual transmission can occur from man to woman, man to man, and woman to man. People who have many sexual partners are at highest risk. Those who have other

sexually transmitted diseases, such as syphilis, are at increased risk of acquiring or passing on HIV infection.

Blood and blood products. Transfusion of HIV-contaminated blood can infect the patient. An increasing number of countries systematically screen human blood intended for transfusion, and do not use blood containing HIV antibodies. Blood-clotting products for disorders such as haemophilia are treated to kill HIV.

Shared needles. Users of illegal injected drugs are at high risk of HIV infection because many of them share unclean needles and syringes. But any unsterilized skin-piercing instrument — including ear-piercing or tattooing needles — can spread HIV from one person to another.

Mother-to-child. A woman infected with HIV can pass the virus to her baby during pregnancy, during birth or shortly after birth. Pregnant women who are infected with HIV have on average a one-in-four risk of their baby being born infected with HIV. Most babies born with the virus die before they are five years old. In some cases the mother might also transmit the virus through breast-feeding.

■ How is HIV not spread?

HIV is not spread through casual contact in school, at the workplace, on toilet seats, in the swimming pool or at the market. It is not spread by handshakes or hugs, by eating from the dish or drinking from the glass used by an infected person, or by food. Nor is it transmitted by mosquitos and other insects. There is no evidence that HIV spreads through kissing.

■ How can you protect yourself?

There are only two sure ways of protecting yourself from sexual transmission: abstain from sex or maintain a monogamous relationship with your uninfected partner. You should avoid sex with people you do not know or who have engaged in high-risk activities, such as having multiple partners and using injected drugs.

If you are not absolutely certain that both you and your partner are free from the virus, you must take protective measures. Either avoid all forms of intercourse or use a condom, which prevents contact between your semen or vaginal secretions and your partner's. Used correctly, and each time, condoms greatly reduce the risk of infection. Lubricate the condom only with special water-based lubricants; do not use oils, vaseline or creams which can cause the condom to break. Do not share razors, needles or any other skin-piercing instrument that could be contaminated with blood.

What to do if you are infected with HIV — or think you are?

If you suspect you are infected or if you or your partner have been involved in any of the high-risk activities described, seek medical advice. Your doctor may counsel you to have a blood test for HIV antibody.

Inform your partner. Never donate blood for transfusion.

Women of childbearing age who know they are HIV-infected, or suspect they might be, should discuss the matter with their partner and think carefully before having a child. Take advice from your midwife, nurse or doctor. ■

Alcohol

Excessive use of alcohol is at the root of many diseases, traffic and work accidents, fires, violence and crime, as well as social and family problems. If you want to reduce the amount of alcohol you drink, without cutting out alcoholic drinks altogether, here are some useful tips.

- **Take smaller sips.** Sip less often and take small sips. Count the number of sips it takes to finish a glass, and then try to increase the

number for the next glass, and so on.

- **Occupy yourself.** Do something else that is enjoyable while you drink, to help distract your attention from the glass, and drink more slowly. You could listen to music, play cards or a game, talk, and so on.
- **Change the drink.** Changing the type of drink you take can help break old habits and reduce the amount you drink.
- **Drink for the taste.** Drink more slowly and enjoy the flavour.
- **Imitate the slow drinker.** Look round for someone who is drinking slowly and behave like a shadow, not picking up the glass until the other person does.
- **Put the glass down between sips.** If you hold the glass you will drink from it more often. Do something else with your hands instead of lifting the glass to your lips.
- **Dilute spirits.** Top up spirits with non-alcoholic mixers.
- **Reduce the amount you drink in "rounds".** When drinking with groups of people buy your own drinks, or buy one round only. When it is your round, do not buy yourself a drink. Order non-alcoholic drinks every so often.
- **Eat before or while drinking.** Eating slows down the absorption of alcohol, and the fact of doing something else may reduce the amount you drink.

- **Take rest days.** Abstain from alcohol at least one day a week, or preferably two, three or even more days. Take up other forms of entertainment and relaxation.
- **Start later.** Start drinking later than usual; for example, go later to the pub or bar.
- **Learn to refuse drinks.** Rehearse ways of refusing drinks: "No thanks, I'm cutting down", for example, or "Not tonight, I've got a bad stomach", or "No thanks, I'm driving".

The above tips, and many other practical suggestions on how to reduce alcohol use, are found in *Management of drinking problems*, by P. Anderson, published by the World Health Organization Regional Office for Europe, Copenhagen, 1990 (WHO Regional Publications, European Series No. 32, price Sw.Fr. 26). ■

The Countess and the cinchona tree

In the September-October 1991 issue of *World Health* on malaria, the caption to a picture states that, in 1630, the Countess of Chinchon cured her recurrent fever with a decoction from the bark of a Peruvian tree. Not so, says José Antonio Najera-Morondo, the author of the article.

Since discovery of the diary of the Countess of Chinchon, which gives a careful day-by-day account of the Chinchon family, it is well known that the Countess was blessed with amazing good health. Aside from a sore throat and a 'flux and cough on the lungs' she had no illness at all in Peru. The noble count himself was frequently ill with malaria, but nowhere is it recorded that he experienced a dramatic cure by fever bark, nor is there any mention of the bark or of the 'Fever Tree'. (Russell, P.F., *Man's mastery of malaria*, Oxford University Press, 1955).

In the next issue

'People have the right and duty to participate individually and collectively in the planning and implementation of their health care.' So states the Alma-Ata Declaration on Primary Health Care. The May-June issue of *World Health* will look into how individuals and communities work for better health. ■

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THE WONDERS OF MODERN MEDICINE SERVE NO PURPOSE
WHEN PEOPLE HAVE NO ACCESS TO THE DRUGS AND
VACCINES THAT RELIEVE SUFFERING AND PREVENT DEATH

